

REMARKS

On June 22, 2005, the Examiner rejected Claim 1 as being obvious in view of Urban, Hill et al., D'Orazio et al., Wehmeyer et al., and Thormann et al., and also in view of the Derwent abstract. Claims 2-11, 13, 14, 16-24, 26, 46, and 48 were rejected as being obvious in view of Urban, Ufer, Douglas, Pace and Diebold. Claims 12 and 25 were rejected as being obvious over Urban in view of Ufer, Douglas, Pace and Diebold and further in view of Wolfe. Claims 15, 27, 47, and 49 were rejected as being obvious over Urban in view of Pace and Diebold. Claims 28 and 50 were rejected as being obvious in view of Urban. In response, Applicant has amended all of the independent claims and canceled Claims 29-31. All of the pending claims were rejected as obvious over Urban in view of various other patents. Applicant has amended the independent claims to more clearly distinguish them from Urban and below explains why Applicant believes Urban actually teaches away from the present invention. Nothing in the other cited prior art patents suggests that combined with Urban would teach toward the present invention.

Regarding Claim 1, the Examiner notes that Urban discloses the use of an analyte-selective organic material suspended over the device. However, Urban only contemplates the use of a membrane adjacent to and directly on the electrodes. (See page 11, second full paragraph.) Applicant has amended Claim 1 to more clearly point out that Applicant's invention includes using a membrane to cover the opening of the cavity and does not come in contact with the working electrodes. This allows the cavity itself to be analyte-selective without interfering with the interactions between the analyte and/or an electroactive species and the surface of the electrode.

Regarding Claims 2, 15, 16, 27, 28 and 32, the other independent claims, all were rejected as obvious over Urban in view of several other patents. Applicant has amended these independent claims to more clearly distinguish them from Urban and to illustrate that Urban teaches away from the present invention. Nothing in the other cited patents may be combined with Urban to suggest modifying Urban to disclose the present invention. Specifically, page 5, the first full paragraph that

overflows to page 7 discloses that the advantage of the Urban invention is essentially that the working electrodes fully or partially surround a reference electrode in the middle of the device. The Urban patent discloses that this allows for more accurate and reduced noise measurements. Applicant's invention, on the other hand, utilizes the central electrode, in this case a microdisk at the bottom of the cavity, as a working electrode that provides a greater surface area for electrochemical interaction with various chemical species in the solution. This allows a faster reaction time which promotes and increases diffusion for those species that have reacted with the disc microelectrode. Urban discloses that the central electrode that is partially or fully surrounded by the working electrodes must be used as a reference electrode in order to enhance the accuracy of the measurements. Applicant's use of the central electrode as a working electrode defeats the purpose and intentions of the Urban disclosure. Applicant, therefore, believes that Urban actually teaches away from the present invention.

Additionally, in the present invention, the planar microdisk electrode at the bottom of the cavity is not connected to a planar connecting layer. As shown in Figures 2, 3, 5, 7, 9, 14 and 15, the Urban patent consistently discloses that the central electrode is connected to a sensing device by means of a thin and narrow conductor that extends out of the device. Even in Figures 10-13, which most closely resemble Applicant's invention, it is clearly shown that the bottom, reference electrode 1 is not attached to a planar conducting layer. Applicant, therefore, believes that these drawings and corresponding text in the specification further teach away from the present invention by not associating electrode 1 to a planar conducting layer, even when other electrodes are so attached. On page 17, second paragraph of the Urban disclosure, it specifically states that electrode 1 is to be surrounded by an insulation layer, thereby precluding it from being attached to a conducting layer. This is iterated on page 18, first full paragraph.

Urban teaches away from both using the central disk electrode as a working electrode and as the connection of the central electrode to a planar conducting layer. Applicant believes that

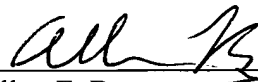
amended claims clearly distinguish these differences.

The Examiner also objected to the drawings under 37 CFR 1.83(a), specifically relating to Claim 28. Enclosed are 10 sheets of corrected drawings. Claim 28 has been amended to remove the rejected subject matter.

Enclosed is a Request For One-Month Extension of Time and a check in the amount of \$60.00 to cover such filing fees.

For all the above reasons, Applicant now believes that the application should be in condition for allowance and such action is earnestly solicited. If, for some reason, any other issues remain, a telephone conference with the Examiner is respectfully requested.

Respectfully submitted,



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